

Application

for

United States Letters Patent

S P E C I F I C A T I O N

TO WHOM IT MAY CONCERN:-

BE IT KNOWN, THAT I, Michael J. Tremblay, a citizen of Canada, residing at 7076 Donwel Drive, Greely, Ontario, K4P 1M7, Canada, has invented or discovered certain new and useful improvements in:-

FOLDABLE SHELTER

of which the following is a specification.

TITLE OF THE INVENTION

FOLDABLE SHELTER

FIELD OF THE INVENTION

[0001] The present invention relates to foldable shelters for use for example by hunters or ice fishermen and more particularly to a collapsible and foldable shelter which incorporates a bench.

BACKGROUND OF THE INVENTION

[0002] Hunters, ice fishermen or persons practicing other outdoor activities frequently need shelters to protect themselves during periods of inclement or cold weather. In general, situations arise where the shelter needs to be transported from one location to another, and in order to satisfy these needs, lightweight collapsible enclosures have been provided in the art. For example, United States Patent Nos. 5,628,338; 6,021,794; 3,865,429; 3,845,985; 3,155,425; Canadian Patent Application S.N. 2,296,120; 5,368,057; 4,186,507; 3,874,398; and Canadian Patent No. 1,237,624, which are of general background interest to the present invention, describe shelters with structures, mainly collapsible, but which are very different from the structure of the shelter of the present invention. For example, most of these shelters do not incorporate a bench as part of their structures.

[0003] Lightweight collapsible enclosures incorporating benches are also known in the art, as described for example in United States Patent Nos. 6,296,002; 5,133,378; 4,083,601; 4,971,089; 3,509,891; 3,131,704; 3,120,978; 3,034,523; 2,811,977; 3,027,189; 3,010,464; 1,046,299; 1,061,270; 829,281; and U.S. Patent Application Publication No. US 2003/0046855. Some of these prior art references

show structures which collapse from side-to-side and others show structures which collapse from front to back. Of particular interest in this group are U.S. Patent Nos. 829,281 to William Ernest Monro issued August 21, 1906 and 1,046,299 to Charles A. Hyde issued December 3, 1912, wherein the shelter is provided with hinged seat supports. The shelter according to U.S. Patent No. 6,296,002 is adapted to attach to a folding chair and collapses from side-to-side.

[0004] It is also desirable to provide a shelter which can be anchored to the ground or snow in order to prevent the shelter from moving for example due to the wind. Canadian Patent Application S.N. 2,296,120 listed above describes and illustrates a structure which comprises a plurality of spikes molded or attached therein, to be embedded into the ground or snow for anchoring the shelter. However, this shelter is not easily transportable by a user from one location to another, rather, it needs to be pulled or towed.

[0005] While each of these devices satisfy the functional need of providing a shelter and for some, also the need of being foldable and lightweight in order to be transported by the user from one location to another, there remains a need for an efficient shelter which can be easily installed without the need of performing any additional assembly, and which is easily transportable.

SUMMARY OF THE INVENTION

[0006] It is thus an object of one embodiment of the present invention to provide an economic, lightweight, collapsible and portable shelter, which is easy to manufacture and to operate.

[0007] In accordance with the present invention, there is provided a shelter foldable between an open, operative position and a closed, storage or carrying position. The shelter comprises first and second elongated planar side sections, each formed from elongated rear and front members. Cross members extend between and are secured to the rear and front members of each side section to

rigidify each side section. A collapsible cross brace structure is pivotably and slidably secured to the rear members to join the planar side sections and permit them to be moved between closed position adjacent each other and open position spaced from each other. A bench is secured to one of the cross members and pivotable therewith between a storage position parallel to its corresponding side section when the shelter is in closed position, and a seating position extending over to and supported on a corresponding cross member on the other side section when the shelter is in open position. The bench is provided with means for releasably securing the bench on the corresponding cross member thereby locking the side sections in open position. A fabric material is secured to the elongated rear and front members so as to provide for a person seated on the bench, when the shelter is in open position, a protective covering from above, behind and the two sides.

[0008] According to a preferred embodiment, the cross brace structure comprises a pair of elongated arms centrally pivotally secured to each other, one end of each arm being pivotally secured to an opposite of the rear members and the other end of each arm being slidably secured to the other of the rear members. The slidable ends of the arms are preferably provided with sleeves secured thereto, so as to permit them to slide on their corresponding rear members between a first position when the shelter is in open position and a second position when the shelter is in closed position.

[0009] The rear and front members of the shelter according to the present invention can be spaced apart and a top portion of the rear member can be curved over and secured to a corresponding top portion of the corresponding front member. Preferably, the means for releasably securing the bench on the corresponding cross member comprises pins downwardly depending from the bench to be operatively received in apertures located in the corresponding cross member.

[00010] The shelter according to the present invention is simple, lightweight and economical construction and efficient and easy to operate.

BRIEF DESCRIPTION OF THE DRAWINGS

[00011] These and other objects and advantages of the invention will become apparent upon reading the following detailed description and upon referring to the drawings in which:

[00012] FIGURE 1 is a perspective view of the shelter according to the present invention in full open position;

[00013] FIGURE 2 is a perspective view of the shelter according to the present invention, half open;

[00014] FIGURE 3 is another perspective view of the shelter in full open position; and

[00015] FIGURE 4 is a perspective view of the shelter according to the present invention in full closed position.

[00016] While the invention will be described in conjunction with the illustrated embodiment, it will be understood that it is not intended to limit the invention to such embodiment. On the contrary, it is intended to cover all alternatives, modifications and equivalents as may be included within the spirit and scope of the invention as defined by the appended claims.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[00017] In the following description, similar features in the drawings have been given similar reference numerals.

[00018] Referring to Fig. 1, there is shown a foldable shelter 10 in a full open, operative position. The shelter comprises first and second elongated planar side

sections 12,14, each of which is formed from rear and front elongated members 16,18 (for side section 12) and 20,22 (for side section 14), best shown in Fig. 3. Each of the side sections 12 and 14 is rigidified by a cross member 24 and 26 respectively, secured thereto and extending between the corresponding rear and front members. Thus, cross member 24 extends between rear and front members 16 and 18, and cross member 26 extends between rear and front members 20 and 22.

[00019] The elongated rear members 16 and 20 are joined together by a collapsible cross brace structure 28, which permits them to be moved between a closed position wherein they are adjacent to each other, as illustrated in Fig. 4, and an open position wherein they are spaced from each other, as illustrated in Fig. 1. The brace structure 28 is pivotally and slidably secured to the elongated rear members 16 and 20.

[00020] A bench 30 is incorporated to the structure of the shelter according to the present invention. It is secured to cross member 26 at 32a and 32b on side section 14, and is pivotable therewith between a storage position wherein it is parallel to the elongated rear and front members 20,22, when the shelter is in closed position (Fig. 4), and a seating position wherein it extends over to and is supported on cross member 24 on side section 12. Bench 30 is provided with means 34 for releasably securing it on cross member 24, thereby locking the side sections 12,14 in open position. A protective covering 58 for a person seated on the bench of the shelter in open position is provided from an appropriate material such as a waterproof or water or wind resistant fabric. Covering 58 is secured to the elongated rear and front members, thus providing a protective covering for the shelter from above, behind and the two sides.

[00021] In a preferred embodiment of the shelter according to the present invention, the cross brace structure comprises a pair of elongated arms 36,38 which are centrally pivotally secured to each other at 40. One end of arm 38 is pivotally secured to elongated rear member 20 at 42, and a corresponding end of arm 36 is pivotally secured to elongated rear member 16 at 44. The other end of arm 38 is slidably secured to elongated rear member 16 and the other end of arm 36 is slidably

secured to elongated rear member 20. These ends of arms 36 and 38 are each provided with a sleeve 46 which permits each of these ends to slide along the corresponding elongated rear member, between a first position when the shelter is in open position, and a second position when the shelter is in closed position, as indicated by the arrows in Fig.3. The respective elongated rear and front members 16,20 and 20,22 can be spaced apart and a top portion of each rear member 16,20 can be curved over and secured to a corresponding top portion of the corresponding front member 18,22.

[00022] The bench 30 can be provided with pins 34 depending therefrom, to be operatively received in apertures 52a,52b located in cross member 24. It should be noted that any mechanism suitable for effecting such locking can be used.

[00023] In a preferred embodiment, each rear and front elongated member comprises a post member 54, downwardly extending therefrom, to embed in the ground or snow to anchor the shelter. This prevents the shelter from moving when the wind blows. The covering 58 on each side section 12,14 can be provided with a window section 56.

[00024] Hooks 60 or other conventional securing means may be provided on the front elongated members 18,22 to releasably receive camouflage or other material and secure it in position across the open front of the shelter.

[00025] For carrying the shelter when in closed position, one or more hand straps 62 or shoulder straps 64 may be provided as illustrated.

[00026] To keep the shelter locked in closed position and prevent unwanted opening, appropriate locking straps 66 may be provided to releasably secure side sections 12 and 14 in adjacent, closed position.

[00027] In operation, when the shelter is in closed, portable position, straps 66 are released; the two side sections 12,14 are pulled apart and the shelter is installed (Fig. 3). Bench 30 is then pivoted from the vertical position wherein it is parallel to

the elongated members to a horizontal, seated position wherein pins 34 are inserted in apertures 52a and 52b (Fig. 1). When it is desired to close the shelter, the same sequence is repeated backward.

[00028] The shelter 10 according to the present invention is economic, lightweight, collapsible and portable, and easy to operate. These features make it useful not only as an on-site outdoor shelter for hunters and fishers, but also as an outdoor shelter for military or other use in desert or forest areas, and even for use field-side by parents, in inclement weather, to watch their children's outdoor sports events such as soccer.

[00029] Thus it is apparent that there has been provided in accordance with the invention a lightweight portable shelter for hunters, ice fishermen or for use in other outdoor activities, that fully satisfies the needs and advantages set forth above. While the invention has been described in conjunction with illustrated embodiments thereof, it is evident that many alternatives, modifications and variations will be apparent to those skilled in the art in light of the foregoing description. Accordingly, it is intended to embrace all such alternatives, modifications and variations as fall within the spirit and broad scope of the invention.